4

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,928	01/30/2004	Toshiyuki Fukuoka	1359.1087	3959

21171 7590 03/22/2007

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
TERMANINI, SAMIR	
ART UNIT	PAPER NUMBER
2178	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/766,928	FUKUOKA ET AL.	
	Examiner	Art Unit	
	Samir Termanini	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/10/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

BACKGROUND

1. This action is responsive to the following communications: Application filed on 1/30/2004.

2. Claims 1–16 are pending in this case. Claims 1, 15, and 16 are in independent form.

3. The information disclosure statement (IDS) filed on 3/10/2004 has been acknowledged and considered by the examiner. The Initial copy of form PTO-1449 is included in this office action.

4. Receipt is acknowledged of papers submitted on 1/30/2004 under 35 U.S.C. § 119 (a)-(d), which papers have been placed of record in the file.

CLAIM REJECTIONS - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 1–14, and 16** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1–14 provide for a dialog control system, but, since the claim does not set forth any physical articles or objects to constitute a machine, it appears applicant is intending to encompass functional descriptive material (i.e. software *per se*).

Accordingly, the subject matter of claim 1–14 is not limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter.

7. **Claim 16** is rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter, and further raises questions as to whether the claim is directed to an abstract idea. More specifically, the claim lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 U.S.C. 101. It is clearly not a series of steps or acts, to be a process, nor is it a combination of chemical compounds to be a composition of matter. Claim 16 is a computer program claimed a computer listings *per se*, i.e., the descriptions or expressions of programs because the "program product" limitation recited, in claims 16, is not limited to those that are "computer-readable" (e.g. the claimed "program product" could be a piece of paper) and likewise does not define any structural and functional interrelationship between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. Therefore, claim 16, being directed toward computer listings *per se*, fail to fall within a statutory category.

8. For the purposes of examination, claim 16 is being examined as if it was instead directed toward subject matter claimed as embodied on a computer-readable medium.

CLAIM REJECTIONS - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. **Claims 1–16** are rejected under 35 U.S.C. 102(b) as being anticipated by *Barbara Hayes-Roth* (US 2002/0005865 A1).

As to independent **claim 1**, *Barbara Hayes-Roth* describe(s): A dialog control system , comprising: an input part for interpreting input information input by a user ("...receiving from the author content ...," para. [0012]); a dialog agent for responding to the input information ("...dialogue delivered by the agent...," para. [0012]); and a dialog control part placed between the dialog agent and the input part ("...actual context that occurs during operation of the agent and that matches the potential context...," para. [0012]), for identifying a plurality of the dialog agents ("...agents...," para. [0003]), transmitting the input information to the dialog agent to request a response to the input information ("...what the Imp Character will say in response...," para. [0064]), and transmitting a response from the dialog agent to an output part ("...Character will respond with the related piece of dialog...," para. [0078]), wherein , when the input information is input ("...USER INPUT...," para. [0045]), the dialog control part inquires

about processable information with respect to the plurality of dialog agents , stores the processable information ("...track and store various items of information...," para. [0144]), matches the input information with the processable information ("...Examples of Matches between Actual Contexts and Potential Contexts of the Agent Izzy ...," para. [0061]), selects the dialog agent capable of processing the input information ("...processing unit...," para. [0390]), and transmits the input information to the selected dialog agent to receive a response thereto ("...an internal event or state of the agent, or an input from a different computer-controlled process...," para. [0013]).

As to dependent claim 2, which depends from claim 1, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 1, wherein the dialog control part previously stores identification information of the dialog agents and selection priority of the dialog agents so that the identification information is associated with the selection priority ("...what is stored in a database from a previous interaction...," para. [0128]), refers to the dialog agents in a decreasing order of the selection priority when referring to the input information and the processable information ("...Log cues are preconditions that are used to help catalog behaviors and topics of interest as they occur in real interactions...," para. [0129]), and transmits the input information to the first selected dialog agent to request a response to the input information ("...receiving from the author content for the agent in the potential context...," para. [0012]).

As to dependent claim 3, which depends from claim 2, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 2, wherein the dialog

control part accumulates identification information of the dialog agent selected as a transmission destination of the input information ("...be identified by the user or for the user...," para. [0013]), refers to the first stored dialog agent when selecting the subsequent dialog agent ("...storing...," para. [0012]), in a case where the stored dialog agent is capable of processing the input information ("...processing unit...," para. [0390]), transmits the input information to the stored dialog agent to request a response to the input information , and in a case where the stored dialog agent is not capable of processing the input information ("...uses the content to control the behavior of the agent in an actual context that occurs during operation of the agent and that matches the potential context...," para. [0012]), refers to the dialog agents in a decreasing order of the selection priority ("...decrease) in the agent's mood or user's assumed mood by a specified qualitative magnitude...," para. [0386]).

As to dependent **claim 4**, which depends from claim 2, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 2, wherein the selection priority of the dialog agent is automatically updated in accordance with a use frequency ("...wording will occur with some frequency ...," para. [0178]).

As to dependent **claim 5**, which depends from claim 3, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 3, wherein the selection priority of the dialog agent is automatically updated in accordance with a use frequency ("...one that remembers one-word answers and another that remembers two-word answers (the two-word pattern should be more important than the one word pattern)....," para. [0377]).

As to dependent **claim 6**, which depends from claim 2, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 2, wherein , in the dialog control part ("...computer-controlled agent...," para. [0012]), the control agents to be referred to are narrowed in accordance with contents of the input information ("...narrow it down further...," para. [0273]), and the narrowed dialog agents are referred to in a decreasing order of the selection priority ("...generic help response ...," para. [0273]).

As to dependent **claim 7**, which depends from claim 3, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 3, wherein , in the dialog control part ("...Natural Language Generation ...," para. [0078]), the control agents to be referred to are narrowed in accordance with contents of the input information ("...narrow it down further...," para. [0273]), and the narrowed dialog agents are referred to in a decreasing order of the selection priority ("...decrease) in the agent's mood or user's assumed mood by a specified qualitative magnitude...," para. [0386]).

As to dependent **claim 8**, which depends from claim 4, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 4, wherein , in the dialog control part ("...Natural Language Generation ...," para. [0078]), the control agents to be referred to are narrowed in accordance with contents of the input information ("...narrow it down further...," para. [0273]), and the narrowed dialog agents are referred to in a decreasing order of the selection priority ("...weighted at

178,507 while the Ecstatic line would be weighted at 849,347, so the Ecstatic line would be about 5 times more likely to be selected...," para. [0113]).

As to dependent claim 9, which depends from claim 1, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 1, wherein the dialog control part stores the identification information of the dialog agent determined to be available based on the processable information on a basis of the dialog agents ("...identifies a potential context of an agent to an author, receives input from the author, and stores the content in a database...," para. [0064]), and the dialog control part inquires about the processable information with respect to only the dialog agent determined to be available ("...If two lines of dialog for Happy and Ecstatic were available, the Happy line in this case would be weighted at 178,507 ...," para. [0113]).

As to dependent claim 10, which depends from claim 2, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 2, wherein the dialog control part includes a user information input part for inputting information for identifying a user ("...identifying to an author a potential context of the agent...," para. [0012]), stores input information for identifying the user and information on a state using the dialog agent including the selection priority on a user basis ("...storing the content such that it can be accessed by a run-time system that uses the content to control the behavior of the agent in an actual context that occurs during operation of the agent and that matches the potential context...," para. [0012]), and performs processing in accordance with the selection priority on a user basis ("...178,507 while the Ecstatic line would be weighted at 849,347, so the Ecstatic line would be about 5

times more likely to be selected. These numbers change depending on what was selected on the Specificity Scaler. If Most Specific Only is selected, the ImpEngine will only select the line with the greatest specificity...," para. [0113]).

As to dependent **claim 11**, which depends from claim 3, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 3, wherein the dialog control part includes a user information input part for inputting information for identifying a user ("...identifying to an author a potential context of the agent...," para. [0012]), stores input information for identifying the user and information on a state using the dialog agent including the selection priority on a user basis ("...178,507 while the Ecstatic line would be weighted at 849,347, so the Ecstatic line would be about 5 times more likely to be selected...," para. [0113]), and performs processing in accordance with the selection priority on a user basis ("...These numbers change depending on what was selected on the Specificity Scaler. If Most Specific Only is selected, the ImpEngine will only select the line with the greatest specificity...," para. [0113]).

As to dependent **claim 12**, which depends from claim 4, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 4, wherein the dialog control part includes a user information input part for inputting information for identifying a user ("...identifying to an author a potential context of the agent...," para. [0012]), stores input information for identifying the user and information on a state using the dialog agent including the selection priority on a user basis ("...178,507 while the Ecstatic line would be weighted at 849,347, so the Ecstatic line would be about 5 times more likely to be selected...," para. [0113]), and performs processing in accordance

with the selection priority on a user basis ("...These numbers change depending on what was selected on the Specificity Scaler. If Most Specific Only is selected, the ImpEngine will only select the line with the greatest specificity...," para. [0113]).

As to dependent claim 13, which depends from claim 5, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 5, wherein the dialog control part includes a user information input part for inputting information for identifying a user ("...identifying to an author a potential context of the agent...," para. [0012]), stores input information for identifying the user and information on a state using the dialog agent including the selection priority on a user basis ("...178,507 while the Ecstatic line would be weighted at 849,347, so the Ecstatic line would be about 5 times more likely to be selected...," para. [0113]), and performs processing in accordance with the selection priority on a user basis ("...These numbers change depending on what was selected on the Specificity Scaler. If Most Specific Only is selected, the ImpEngine will only select the line with the greatest specificity...," para. [0113]).

As to dependent claim 14, which depends from claim 6, *Barbara Hayes-Roth* further disclose(s): The dialog control system according to claim 6, wherein the dialog control part includes a user information input part for inputting information for identifying a user ("...identifying to an author a potential context of the agent...," para. [0012]), stores input information for identifying the user and information on a state using the dialog agent including the selection priority on a user basis ("... stores the content in a database...," para. [0064]), and performs processing in accordance with the selection priority on a user basis ("...weighted at 178,507 while the Ecstatic line would

be weighted at 849,347, so the Ecstatic line would be about 5 times more likely to be selected...," para. [0113]).

As to independent **claim 15**, *Barbara Hayes-Roth* describe(s): A dialog control method , comprising: inquiring about processable information with respect to a plurality of dialog agents making responses corresponding to input information ("...an agent Izzy based on values of two state variables, IZZY MOOD and USER INPUT...," para. [0045]), and storing obtained processable information ("...stores the content in a database...," para. [0064]); interpreting input information input by a user ("...USER INPUT...," para. [0045]); matching the input information with the processable information ("...agent matches a given potential context of the agent if a value of a state variable in the given actual context matches a value of a corresponding state variable in the given potential context...," para. [0043]), selecting the dialog agent capable of processing the input information , and transmitting the input information to the selected dialog agent to request a response to the input information ("...the character will "see" the longer keyword, and respond...," para. [0148]); and receiving the response from the dialog agent and outputting it .

As to independent **claim 16**, *Barbara Hayes-Roth* describe(s): A program product storing a program on a recording medium , the program allowing a computer to execute the operations of: inquiring about processable information with respect to a plurality of dialog agents making responses corresponding to input information ("...identifies a potential context of an agent to an author...," para. [0064]), and storing obtained processable information ("...the content information ...," para. [0038]); interpreting

input information input by a user ("...to recognize a wide variety of keywords and patterns...," para. [0144]); matching the input information with the processable information ("...Examples of Matches between Actual Contexts and Potential Contexts of the Agent Izzy 3 AC1 matches PC1 - - - PC3 - - - AC2 matches - - - PC2 PC3 - - - AC3 matches...," para. [0061]), selecting the dialog agent capable of processing the input information ("...The entered content is stored in an authoring database 18, which is processed ...," para. [0388]), and transmitting the input information to the selected dialog agent to request a response to the input information ("...the character will "see" the longer keyword, and respond...," para. [0148]); and receiving the response from the dialog agent and outputting it ("...Creating responses ...," para. [0009]).

CONCLUSION

11. Although not relied upon, the following prior art is made of record because it considered pertinent to applicant's disclosure:

Schoneburg, Eberhard et al.	US 20020133347 A1	Method and apparatus for natural language dialog interface.
Brown, Geoffrey Parker	US 20040147324 A1	Contextually accurate dialogue modeling in an online environment.
Costigan, Thomas J. et al.	US 20020083167 A1	Communications System and Method.
Kim, Sang Seol et al.	US 20020042713 A1	Toy having speech recognition function and two-way conversation for dialogue partner
Scholz; Karl Wilmer et al.	US 7024348 B1	Dialogue flow interpreter development tool
Comerford; Liam David et al.	US 6748361 B1	Personal speech assistant supporting a dialog manager
Bloom; Charles P. et al.	US 5597312 A	Intelligent tutoring method and system
Amirghodsi; Siamak et al.	US 4974191 A	Adaptive natural language computer interface system
Best; Robert M.	US 4305131 A	Dialog between TV movies and human viewers

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samir Termanini whose telephone number is (571) 270-

1047. The Examiner can normally be reached from 9 A.M. to 4 P.M., Monday through Friday (excluding alternating Fridays).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Stephen S. Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, *see* http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

STEPHEN HONG
SUPERVISORY PATENT EXAMINER

Samir Termanini
Samir Termanini
Patent Examiner
Art Unit 2178